ALASKA ENERGY AUTHORITY

AEA RAILBELT TRANSMISSION UPDATES

Curtis W. Thayer
Executive Director

House Finance Committee
March 19, 2026

ALASKA ENERGY AUTHORITY

AEA Programs and Services Overview

Owned Assets
- Bradley Lake Hydroelectric Project
- Alaska Intertie
- Sterling to Quartz Creek Transmission Line
- Cook Inlet PowerLink

Power Cost Equalization
- $46 Million Program
- 188 Rural Communities
- 81 Electric Utilities
- Benefits 81,000+ Alaskans

(All figures reflect FY2025)

Rural Energy
- Bulk Fuel Upgrades
- Rural Power System Upgrades
- Circuit Rider Program
- Electrical Emergency Assistance

Renewable Energy and Energy Efficiency
- Renewable projects; biomass, electric vehicles, hydroelectric, solar, and wind
- Federal programs: National Electric Vehicle Infrastructure and Home Energy and High Efficiency Rebate Allocation

Grants and Loans
- Renewable Energy Fund
- Power Project Fund
- Federal Grants

Energy Planning
- Alaska Energy Security Task Force
- State Energy Security Profile
- Electronic Library
- Energy Data Resources
- 40101(d) Grid Resilience

Railbelt Transmission Organization
- AEA, Railbelt Reliability Council, and Utility Governance
- Certificate of Public Convenience and Necessity
- Tariff Under Regulatory Review

Status Overview

AEA has secured initial funding for both projects, which are actively progressing through early development. However, substantial capital investment is still required to fully execute each initiative.

Bradley Lake Expansion Project

- **Total cost:** $400M
- **Funds raised to date:** $20.7M (preconstruction costs)
- **Funds still needed:** $400M

Cook Inlet PowerLink

- **Total cost:** $413M
- **Funds raised to date:** $270.7M
- **Funds still needed:** $142.3M

Total Project Cost – $400 Million
May Qualify for Up to $100 Million in Federal Tax Credits

ALASKA ENERGY AUTHORITY

Bradley Lake Expansion Project

- AEA is advancing the **Bradley Lake Expansion Project**—which includes the Dixon Diversion and Bradley Pool Raise sub-projects—and would divert water from Dixon Glacier to **increase Bradley Lake's annual hydropower output by approximately 50 percent**
- **As of March 2026**, Fiscal Year 2026 funding is secured, environmental studies are underway, a Draft Amendment Application has been submitted to FERC for review, and we continue to meet with a Board of Consultants for design and permitting

ESTIMATED ANNUAL OUTPUT
180,000 MWh
≈ 30,000 homes powered

NATURAL GAS OFFSET
1.5 Billion cu ft
7.5% of unmet demand (2030)

TARGET COMPLETION
2031
Shovel-ready status

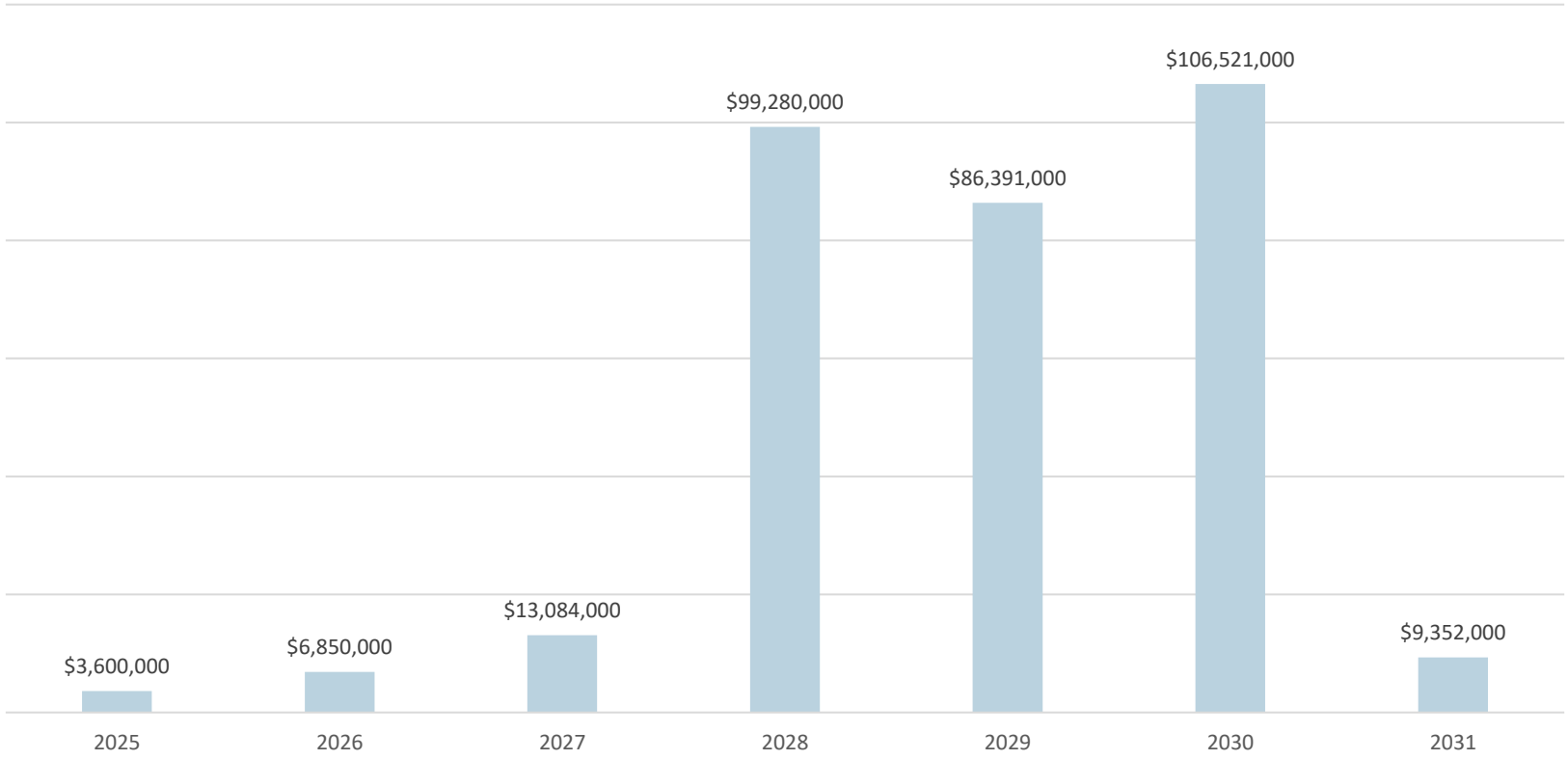
ESTIMATED COST
$400 Million
Class IV Estimate

Bradley Lake Expansion Project Construction Cost Timeline (Thousands)

Funding Secured (Target):
Q3 2026

Construction Begins:
May 2027

Commissioning:
December 2030



Total Project Cost – $413 Million
DOE Grant: $206.5 Million; Match of $64.2 Million Secured; $142.3 Million Needed

Cook Inlet PowerLink (CIPLink)

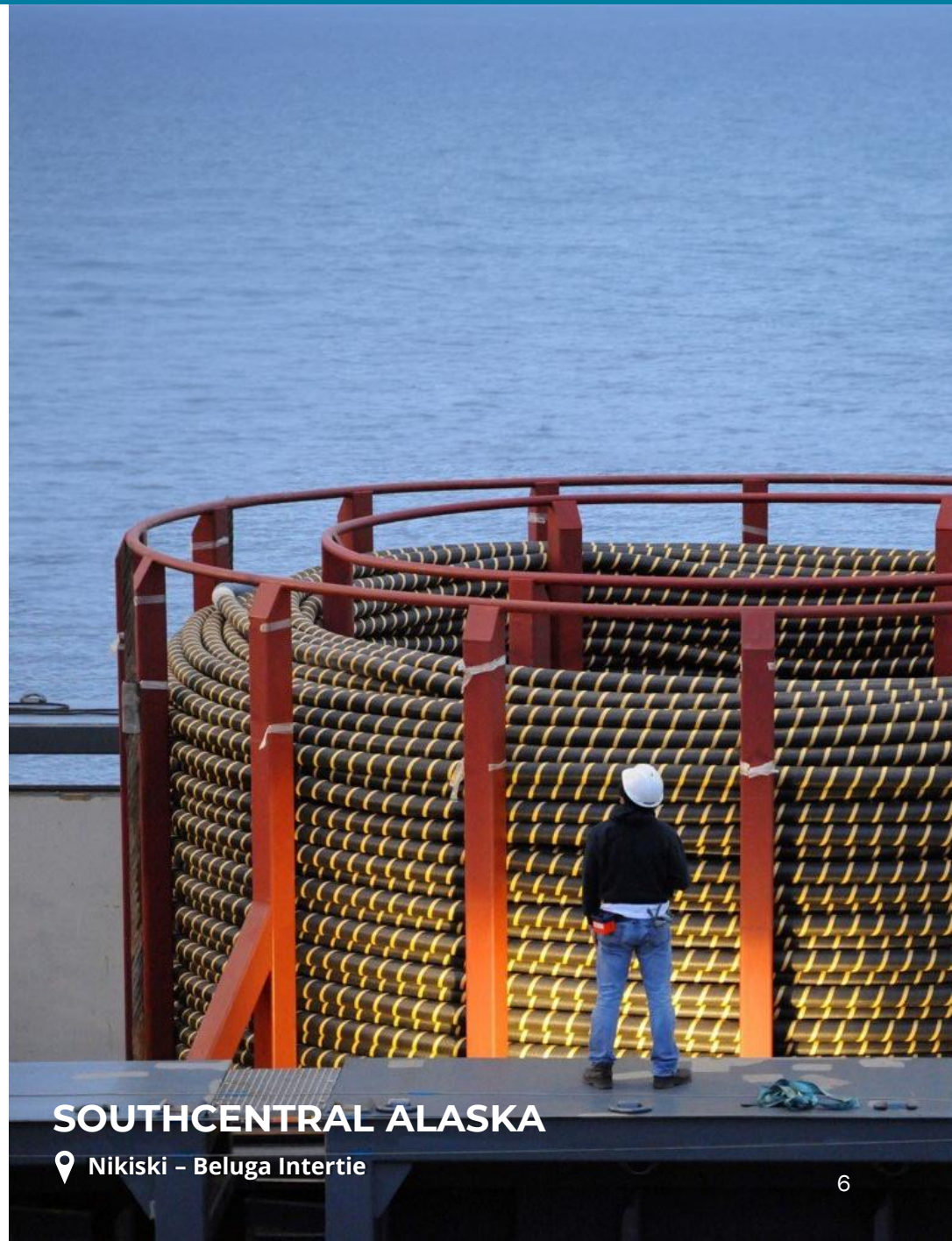
- **CIPLink** is a high-voltage direct current transmission project connecting the Southern and Central Railbelt regions through a 38-mile subsea cable and overland routes, enabling **up to 200 megawatts of bidirectional power flow**
- **As of March 2026**, preliminary engineering and environmental routing are complete, and the project is advancing into detailed design, permitting, and procurement in alignment with DOE Grid Resilience and Innovation Partnerships timelines

CAPACITY
200 MW
Bidirectional Flow

CONNECTIVITY
Railbelt Link
Connects South & Central Regions

TARGET COMPLETION
2032
Shovel-ready status

ESTIMATED COST
$413 Million
Preliminary Engineering Done

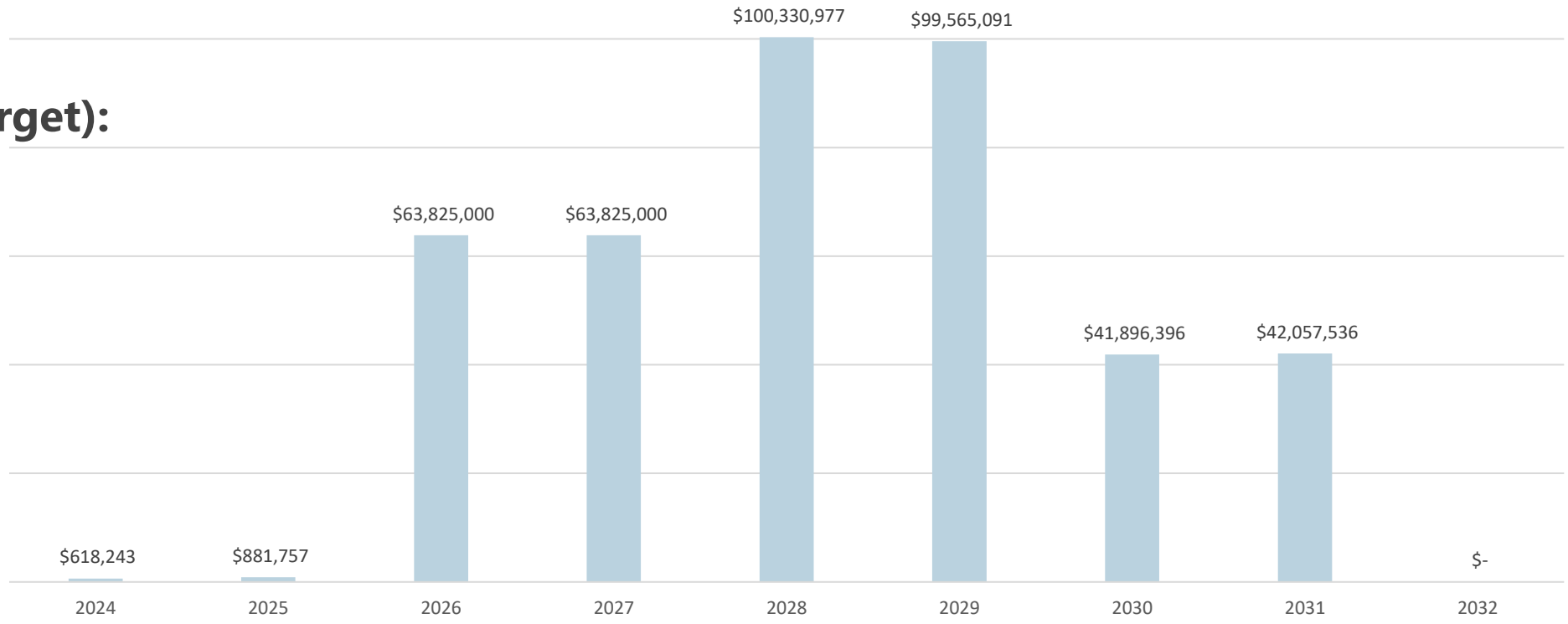


Cook Inlet PowerLink
Construction Cost Timeline (Thousands)

Funding Secured (Target):
Q3 2026

Construction Begins:
January 2029

Commissioning:
April 2032



Expert Partners

HUNTON

Global Law – Energy & Infrastructure
Finance – Tax

orrick

Global Law – Technology
Energy & Infrastructure – Finance

pfm

Public Finance Advisory
& Capital Planning

DOWL

Engineering – Planning – Surveying
(Bradley Lake Hydroelectric Project)

Stantec

Engineering – Architecture –
Environmental Consulting
(Cook Inlet PowerLink)


ALASKA ENERGY AUTHORITY
DOE Loan Program Office – Part II Application
Title 17 Clean Energy Financing
1703 – Innovative Energy

Potential Financial Partners

ALASKA ENERGY AUTHORITY

1. **U.S. Department of Energy (DOE) Energy Dominance Financing — Title 17**
   Formerly known as the DOE Loan Programs Office loan guarantees for clean energy—**large-scale projects $100M+**
   BRADLEY LAKE

2. **U.S. Department of Agriculture (USDA)**
   Rural Utilities Service (RUS) — System Borrow Program
   RUS insured loans for existing cooperative borrowers—lowest-cost federal financing
   BRADLEY LAKE & CIPLINK

3. **Tax-Exempt Bonds**
   Bradley Lake Expansion Project only—tax-advantaged municipal bond financing for qualifying hydro project
   BRADLEY LAKE ONLY

4. **National Rural Utilities Cooperative Finance Corporation (NRUCFC) — Taxable Bonds**
   NRUCFC senior debt—flexible market-rate financing
   BRADLEY LAKE & CIPLINK

5. **Taxable Bond Market**
   Access to broader public capital markets for financing flexibility
   BRADLEY LAKE & CIPLINK

Investment Tax Credits – Bradley Lake

INVESTMENT TAX CREDITS – BRADLEY LAKE EXPANSION PROJECT

May qualify for investment tax credits, potentially valued at 6–25% of total project cost

$100M
POTENTIAL TAX CREDIT VALUE

Maximizing the Tax Credit Dollar Amount

- Tax credit eligibility analysis for full project scope
- Strategies to maximize total credit dollar amount through project structuring and timing
- The tax credit is reduced by 15 percent if tax-exempt bonds are used in the funding stack

Based on recommendations from the Governor's Alaska Energy Security Task Force—including eliminating transmission wheeling charges and establishing an RTO—the Legislature passed House Bill 307, signed into law on July 31, 2024. Under this new law, the RTO is established as a division of AEA.

Railbelt Transmission Organization (RTO)

- The RTO operates a **division of AEA** for administrative purposes
- Governance includes representatives from **AEA, Chugach Electric Association, Golden Valley Electric Association, Homer Electric Association, Matanuska Electric Association, the City of Seward**, and the Railbelt Reliability Council (ex-officio, nonvoting member)
- The RTO received its **certificate to operate** from the Regulatory Commission of Alaska (RCA) on **May 6**
- On **July 1**, the RTO filed a proposed **Open Access Transmission Tariff (OATT)** with the RCA, meeting its statutory deadline. The docket is pending at the RCA with a final order due June 4, 2026
- The proposed OATT outlines terms for **network integration transmission service** and introduces a **formulaic tariff-based revenue mechanism** for recovering the costs to own and operate the backbone transmission system
- Until the OATT is approved and tariffs are finalized, RTO staffing and operating costs are being supported through **interim**, **non-tariff funding sources**

Renewable Energy Fund (REF)

REF Round 17 funded the **six top-ranked projects** recommended by **AEA**, with legislative approval and the Governor's concurrence, for a **FY2026 appropriation of $6.3 million**. For **Round 18, AEA** has recommended **29 applications totaling $41.2 million** for consideration in the FY2027 Capital Budget.

Rounds 13-17: 67 projects – $53.55M

- Rd 13: 11 Projects – $4.75M
- Rd 14: 27 Projects – $15M
- Rd 15: 18 Projects – $17M
- Rd 16: 5 Projects – $10.5M
- Rd 17: 6 Projects – $6.3M


Kongiganak, Alaska

Since its inception, the State has invested **$333 million** in the REF

110+ projects are operational, and **56** more in **development**

REF has **displaced 120 million gallons of diesel**—$600 million in avoided costs at the FY2025 Power Cost Equalization rate of $4.95 per gallon

Rural Power System Upgrades

170	$300+ Million	<2,000
Eligible Communities	Deferred Maintenance	Max Village Population

PROGRAM OVERVIEW

- Improves power generation in Alaska villages with fewer than 2,000 people.
- Replaces outdated, inefficient mechanical systems with new electronically controlled generator sets.
- Declining funds leave communities with aging systems at increasing risk of failure.
- AEA prioritizes projects based on system age, condition, and community risk level.

Bulk Fuel Upgrades

400+
Bulk Fuel Facilities

$1 Billion+
Deferred Maintenance

40+ Years
Average Facility Age

PROGRAM OVERVIEW

- AEA designs and builds modern, code-compliant bulk fuel facilities sized to each village's needs.
- Over 400 facilities statewide, averaging 100,000 gallons in storage capacity.
- Most facilities exceed 40 years old; many over 50 years—posing corrosion, erosion, and environmental risks.
- AEA maintains a need-based inventory and assessment priority list for all facilities.

Federal Funding for Bulk Fuel Infrastructure

Alaska Bulk Fuel Infrastructure Partnership

- **Funding**: **$100 million** awarded to the Alaska Native Tribal Health Consortium (ANTHC) and subawarded to AEA and Alaska Village Electric Cooperative (AVEC) for project management
- **Partners**: Denali Commission, ANTHC, AEA, AVEC
- **Impact**: Largest single-year investment in **20+ years**; replaces failing infrastructure and improves safety and reliability
- **Communities**:
  - AEA - **Shageluk**, **Russian Mission**, **Eek**, **Aniak**, **Tuluksak**
  - AVEC - **Wales**, **Kivalina**, **Kobuk**, **Noatak**, **Quinhagak**
- **Schedule**: Aug. 2025–July 2028 | **Match**: None
- **Benefit** : Modern, resilient fuel storage for power, heat, and transportation

USDA Rural Utilities Service – High Energy Cost Grants

- **Funding**: **$5 million** for bulk fuel maintenance and improvements
- **AEA Role**: Leads coordination, scoping, and community grant awards
- **Communities**: Atmautluak, Brevig Mission, Chignik Lake, Chuathbaluk, Diomede, McGrath, Sleetmute, Stony River, and Teller
- **Schedule**: Scope refinement in 2026; construction during 2026–2027 seasons
- **Benefit**: Extends safe operation and facility life by 5–10 years

Circuit Rider Program

Electrical Emergency Assistance

- Kwethluk (1)

Circuit Rider and Bulk Fuel Itinerant Onsite

Number after entity indicates more than one occurrence: 50 Total Onsite Visits

- Akhiok (3)
- Akiak (2)
- AVTEC/Seward (6)
- Beaver (1)
- Chevak (1)
- Chignik Bay (1)
- Chignik Lake (1)
- Chitina (2)
- Chuathbaluk (1)
- Eek (1)
- Elfin Cove (2)
- Golovin (2)
- Koyukuk (2)
- Levelock (2)
- Napaskiak (6)
- New Stuyahok (1)
- Nunam Iqua (2)
- Nunapitchuk (1)
- Perryville (1)
- Port Heiden (3)
- Rampart (2)
- Scammon Bay (1)
- Takotna (2)
- Teller (1)
- Tenakee Springs (1)
- Tuluksak (1)
- Venetie (1)

Circuit Rider Real-Time Remote Assistance

Number after entity indicates more than one occurrence: 243 Total Responses

- Akhiok (4)
- Akiachak (11)
- Akiak (7)
- Aniak (1)
- Arctic Village (2)
- Atka (1)
- Atmautluak (3)
- Buckland (2)
- Central (1)
- Chalkyitsik (1)
- Chignik (4)
- Chignik Lagoon (1)
- Chignik Lake (3)
- Chitina (9)
- Chuathbaluk (6)
- Circle (5)
- Clarks Point (1)
- Diomede (2)
- Egegik (5)
- Elfin Cove (6)
- False Pass (2)
- Fort Yukon (2)
- Golovin (1)
- Hughes (1)
- Karluk (9)
- Kipnuk (11)
- Kokhanok (2)
- Koliganek (2)
- Kongiganak (1)
- Koyuk (1)
- Koyukuk (4)
- Kwethluk (6)
- Kwigillingok (3)
- Levelock (9)
- Manokotak (1)
- Mc Grath (1)
- Mertarvik (2)
- Napaskiak (20)
- Nelson Lagoon (1)
- Nikolai (8)
- Nikolski (1)
- Nunam Iqua (11)
- Ouzinkie (1)
- Pedro Bay (4)
- Pelican (1)
- Perryville (3)
- Pilot Point (4)
- Port Alsworth (1)
- Port Heiden (17)
- Rampart (5)
- RedDevil (1)
- Ruby (3)
- Saint George (1)
- Seward (1)
- Sleetmute (3)
- Stony River (2)
- Tatitlek (4)
- Tenakee Springs (3)
- Tuluksak (3)
- Tununak (1)
- Unalakleet (3)
- Venetie (7)
- White Mountain (1)

Federal Funding — Awards and Pending Applications (Thousands)

#	Awarded and Conditional Awards	Alaska Grant $	Match Secured $	Match Needed $
1	Grid Resilience and Innovation Partnerships Topic 3 Phase 1	$ 206,500,000	$ 64,200,000	$ 142,300,000
2	Preventing Outages and Enhancing the Resilience of the Electric Grid (40101d)	$ 64,022,556	$ 9,603,383	$ -
3	National Electric Vehicle Infrastructure Program (NEVI) – Formula Funding	$ 37,553,664	$ 10,483,059	$ -
4	Alaska Bulk Fuel Infrastructure Partnership (ABFIP) – (Shageluk, Eek, Tuluksak, Aniak and Russian Mission)	$ 50,000,000	$ -	$ -
5	Home Efficiency Rebates Program	$ 37,293,071	$ -	$ -
6	Home Electrification and Appliance Rebates Program	$ 37,150,940	$ -	$ -
7	Defense Community Infrastructure Pilot - Black Rapids Training Site	$ 15,602,648	$ -	$ -
8	USDA High Energy Cost Grants (Kipnuk, Napaskiak, Manokotak)	$ 7,974,420	$ 4,322,916	$ -
9	USDA High Energy Cost Grant – FY2026 – Bulk Fuel M&I (Supporting 9 rural communities)	$ 5,000,000	$ -	$ -
10	Energy Efficiency Revolving Loan Capitalization	$ 4,782,480	$ -	$ -
11	State Energy Program (FY2025 + BIL Supplement)	$ 4,177,360	$ -	$ -
12	Vehicle Technology Office Competition Federal Fiscal Year 2022 (ARED)	$ 1,670,000	$ 417,500	$ -
13	Energy Efficiency and Conservation Block Grant	$ 1,627,450	$ -	$ -
14	Training for Residential Energy Contractors (TREC)	$ 1,293,870	$ -	$ -
15	USFS Community Wood Energy Grant FY2025 (DC Match)	$ 836,723	$ 836,723	$ -
16	USFS Wood Innovation Grant FY2025	$ 184,651	$ -	$ -
	Total Awards = $707,833,414	**$ 476,669,833**	**$ 89,863,581**	**$ 142,300,000**

#	Application Submitted - Status Pending	Alaska Grant $	Match $
1	FY2027 Federal Congressional Directed Spending (CDS) Requests	$ 9,593,215	$ 0
2	Watersmart Grants: Water and Energy Efficiency Grants – Dixon Diversion	$ 5,000,000	$ 5,000,000
	Total Pending = $19,593,215	**$ 14,593,215**	**$ 5,000,000**

Thank You

Alaska Energy Authority
813 W Northern Lights Blvd.
Anchorage, AK 99503
Phone: (907) 771-3000
Fax: (907) 771-3044
akenergyauthority.org

APPENDIX

REF Round 18 Recommended Projects to Legislature (Thousands)

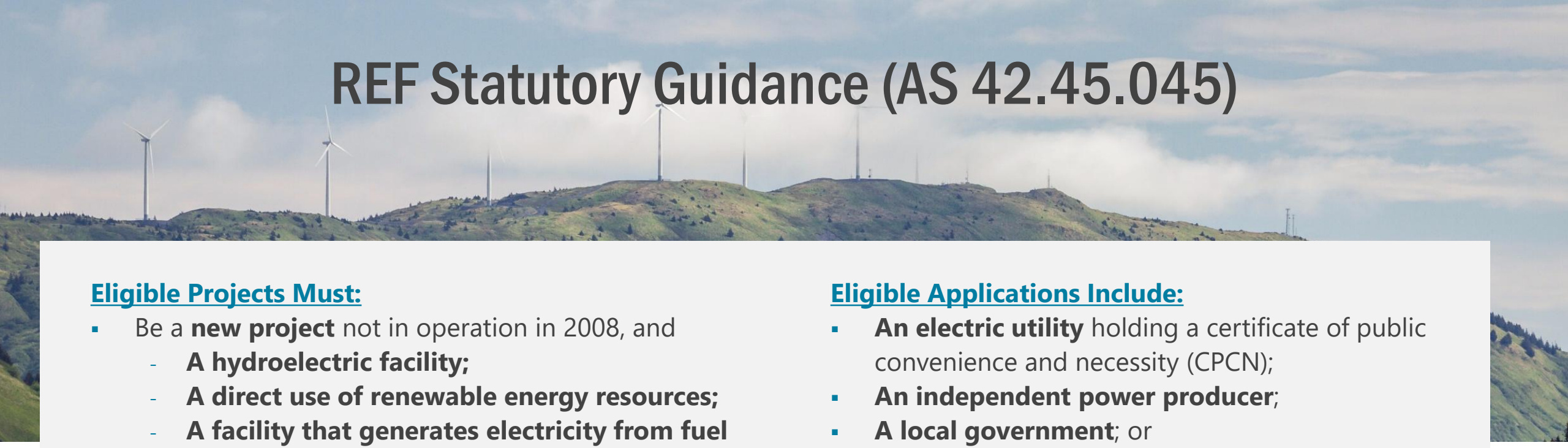
Rank	Community	Project Name	Applicant Name	Technology	Recommended Funding	Energy Region	Election District
1	Kokhanok	Kokhanok Community Center Biomass Heating Project	Kokhanok Village Council	Biomass	$312,800	Bristol Bay	S-37
2	Petersburg, Ketchikan, Wrangell	SEAPA Grid Resiliency (Tyee Hydro Upgrade)	Southeast Alaska Power Agency	Hydro	$2,000,000	Southeast	A-1
3	Allakaket, Alatna	Allakaket Village Community Solar and Battery IPP	Allakaket Village Council	Solar, Storage, NaturalGas	$2,953,085	Yukon-Koyuk/Upper Tanana	R-36
4	Haines, Skagway, Dyea, Klukwan, Chilkat Valley	Goat Lake Hydro Reservoir Expansion - Construction	Goat Lake Hydro, Inc.	Hydro	$2,000,000	Southeast	B-3
5	Kongiganak	500kwh BESS + Installation, Integration, including upgraded controls	Puvurnaq Power Company	Storage	$596,000	Lower Yukon-Kuskokwim	S-38
6	Gambell	Gambell Battery Energy Storage System Project	Alaska Village Electric Cooperative, Inc.	Wind	$1,932,516	Bering Straits	T-39
7	Elim	Elim Community Solar Project	Native Village of Elim	Solar, Storage	$2,987,430	Bering Straits	T-39
8	Tuntutuliak	Tuntutuliak Turbine Repair & Upgrades	Tuntutuliak Community Services Association	Wind, Storage	$565,000	Lower Yukon-Kuskokwim	S-38
9	Railbelt	Healy Volcanic Region Geothermal: Collaborative Data Collection and Subsurface Exploration	Alaska Renewables LLC	Geothermal, Transmission, Storage	$1,248,029	Railbelt	O-30
10	Nome	NJUS Solar- Nome Banner Ridge Solar Farm	Nome Joint Utility System	Solar	$3,950,000	Bering Straits	T-39
11	Unalakleet	Unalakleet Battery Energy Storage System (BESS) Project	Unalakleet Valley Electric Cooperative Inc.	Storage	$1,060,595	Bering Straits	T-39
12	Railbelt	Anchorage Waste-to-Energy Facility Reconnaissance, Feasibility, Conceptual Design, and Permitting	Solid Waste Services, Municipality of Anchorage	Biomass	$2,000,000	Railbelt	Anchorage
13	Kotlik	Kotlik Solar Battery Project	Kongnikilnomuit Yuita Corporation	Solar, Storage	$3,216,259	Lower Yukon-Kuskokwim	T-39
14	Atka	Atka Hydrogen Power Project	Native Village of Atka	Hydro, Storage	$2,560,000	Aleutians	S-37
15	Railbelt	Walker Dome Wind Final Design and Permitting	Walker Dome Wind LLC	Wind, Transmission, Storage	$2,000,000	Railbelt	O-30

*If appropriated by the Legislature and approved by the Governor, this funding would be anticipated to become effective July 1, 2026, and included in the Fiscal Year 2027 capital budget.
**Cumulative B/C Ratio is calculated based on the cumulative Net Present Value of Benefits and total Project costs (match, in-kind, and state funding)

REF Round 18 Recommended Projects to Legislature (Thousands)

Rank	Community	Project Name	Applicant Name	Technology	Recommended Funding	Energy Region	Election District
16	Kwigillingok	500kwh BESS + Installation, Integration, including upgraded controls	Kwig Power Company	Storage	$598,000	Lower Yukon-Kuskokwim	S-38
17	Valdez District, Copper River Basin District	Solomon Gulch Hydroelectric Facility Pool Raise	Copper Valley Electric Association, Inc.	Hydro	$1,490,136	Copper River/Chugach	O-29; R-36
18	CEA Serving Area	Beluga Solar Array	Chugach Electric Association Inc.	Solar	$2,000,000	Railbelt	Anchorage
19	Elfin Cove	Elfin Cove Hydro Final Permitting and Design	Community of Elfin Cove Non-Profit Corporation, Elfin Cove Utility Commission	Hydro, Storage	$130,000	Southeast	A-2
20	Mat-Su Region	Hunter Creek Hydro Electric Feasibility Study Project	Matanuska Electric Association	Hydro	$112,000	Railbelt	Mat-Su Borough
21	Scammon Bay	Wind Power in Scammon Bay	The Native Village of Scammon Bay	Wind	$1,172,401	Lower Yukon-Kuskokwim	T-39
22	Railbelt	Chatanika Wind Feasibility and Conceptual Design	Chatanika Wind LLC	Wind, Transmission, Storage	$583,000	Railbelt	R-36
23	Seldovia, Halibut Cove, Homer	Kenai Peninsula Energy Strategy Planning Project	Chugachmiut	Hydrokinetic	$707,050	Railbelt	C-6
24	Atmautluak	ATU BESS Battery Replacement Project	Atmautluak Tribal Utilities	Storage	$444,500	Lower Yukon-Kuskokwim	S-38
25	Hoonah, Kake, Chilkat Valley, Angoon, Klukwan	Hoonah Battery Energy Storage System (BESS) Installation Project	Inside Passage Electric Cooperative	Storage	$2,350,000	Southeast	A-2
26	Knik Tribal members, Mat-Su Region	Solar in the Heart of the Railbelt	Knik Tribe	Transmission, Solar, Storage	$292,640	Railbelt	Mat-Su Borough
27	Akiachak	Akiachak Wind System Design and Integration	Akiachak Native Community	Wind, Solar, Storage	$797,510	Lower Yukon-Kuskokwim	S-38
28	Railbelt	Bald Hills Wind Feasibility and Conceptual Design	Bald Hills Wind LLC	Wind, Transmission, Storage	$528,000	Railbelt	S-37
29	Mat-Su Region	Knik Tribe Renewable Reconnaissance and Feasibility Study	Knik Tribe	Wind	$577,100	Railbelt	Mat-Su Borough
				Total	**$41,164,051**		

*If appropriated by the Legislature and approved by the Governor, this funding would be anticipated to become effective July 1, 2026, and included in the Fiscal Year 2027 capital budget.
**Cumulative B/C Ratio is calculated based on the cumulative Net Present Value of Benefits and total Project costs (match, in-kind, and state funding)



REF Statutory Guidance (AS 42.45.045)

Eligible Projects Must:

- Be a **new project** not in operation in 2008, and
  - **A hydroelectric facility;**
  - **A direct use of renewable energy resources;**
  - **A facility that generates electricity from fuel cells** that use hydrogen from renewable energy sources or natural gas (subject to additional conditions);
  - **A facility that generates electricity using renewable energy**
  - **Natural gas applications** must also benefit a community that:
    - Has a population of **10,000** or less, and
    - **Does not have economically viable renewable energy resources** it can develop

Eligible Applications Include:

- **An electric utility** holding a certificate of public convenience and necessity (CPCN);
- **An independent power producer**;
- **A local government**; or
- **Another governmental utility**, including a tribal council and housing authority